

Welcome

A strategic transportation plan connecting communities across North Carolina, focused on creating a more responsive, diverse, and inclusive transportation system for keeping people and freight moving safely and efficiently.



NC MOVES 2050

CONNECTING YOUR COMMUNITY,
YOUR VOICE AND YOUR FUTURE

Agenda Outline

1. 2050 to 2032 Analysis

- *Differences in Approach, Inputs; COVID Impact*

2. 2032 Revenue Forecast(s) Across Futures

- *Innovative, Globally Connected, Renewed, Unstable Influences*

3. 2032 Consensus Revenue Forecast

- *Needs to Revenue Gap Implications*

4. Questions

Multimodal Needs – 2050 vs 2032 Approach

NCDOT Stated Commitments

- 10-year project construction schedule +
- 10-year asset management strategy +
- Highway safety improvements +
- Routine maintenance +
- Other multimodal programs +

Backlog Needs through 2018

Multimodal Needs trend through 2032

NCDOT Prioritized Needs

- Unmet prioritized projects in SPOT database +
- Gap to meet asset state of good repair (MOPAR) +
- Short fall in other program (ex. Spot Safety) +

Revenue Forecast through 2032



Why 2032?

- Biennium legislative budget process
- Align with NC FIRST Commission horizon

Revenue Forecast – Near vs Long Term

Approach

- Close correlation to NCDOT Cash Model and OSBM assumptions
 - Continued steady growth in Motor Fuel Tax (MFT), Highway Use Tax (HUT) collections
 - Quadrennial DMV fee increases
 - Federal aid moderates – timing and outlays more uncertain

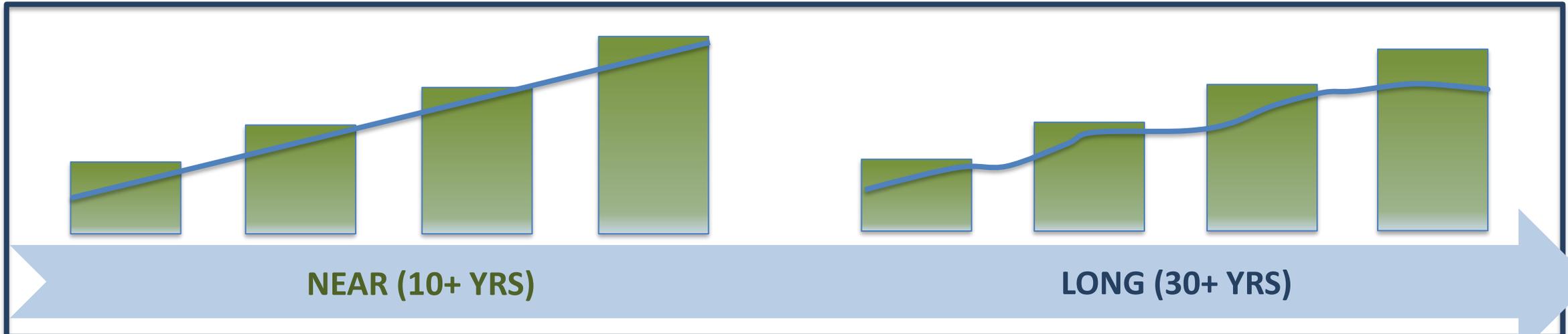
Forecast level driven by continued NC population growth, economic outlook, post-COVID recovery

X Factors: vehicle sales/ownership; percent shift in trip making

Assumptions

- Longer transition to EV and driverless vehicle levels
- Less fuel consumption across mixed fleet impacts MFT
- Smaller federal program; burden shifts to states and local governments to fund greater share of transportation needs
- More access and increased use of non-highway options
- Mixed statewide truck fleet; dispersed freight movement

Best described within a range – forecast susceptible to other near impossible factors to predict (trade policies, politics, global crises, “S” curve disruptions)

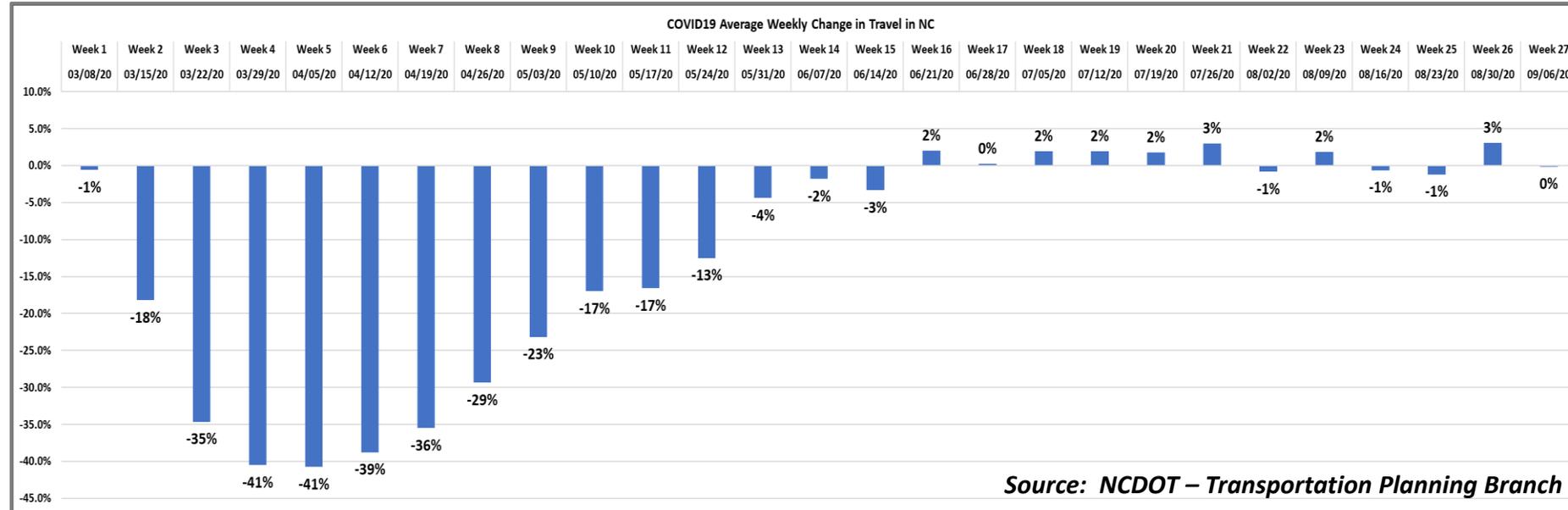
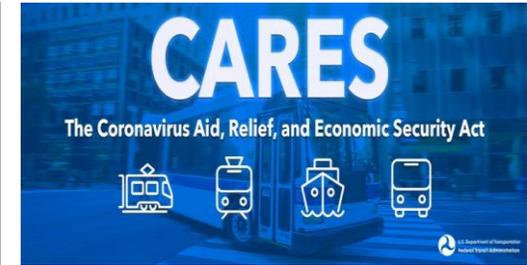


2032 COVID Impacts

- Limited to FY21/22? Recovery signposts?
 - Statewide VMT back to pre-COVID levels
 - State/federal stimulus discussions
 - Cusp of multi-year federal reauthorization
- Potential for some permanent travel demand changes but also....

....offsetting trends:

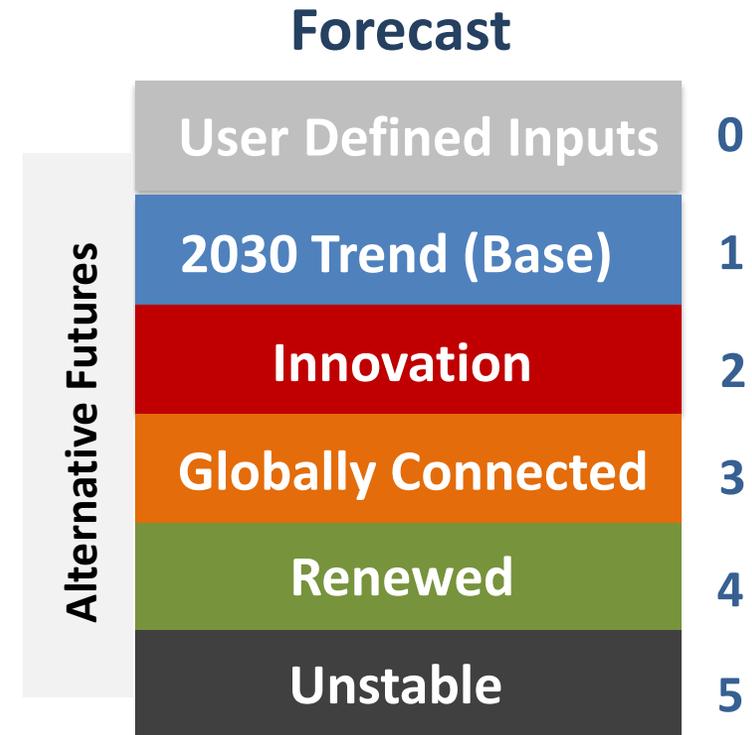
- Work from home, staggered hours leads to less commuters in peak periods, more dispersed travel
- Robust e-commerce leads to more local truck circulation
- Less transit use leads to more SOV trips
- Statewide VMT continues to rise tied to population, economic stability, more recreational travel



Revenue Forecast – Deviation from Near Term Trend

Futures Influence

- Sensitivity analysis modeled through economic and demand variables
 - Gross Domestic Product (GDP)
 - Population
 - Vehicles Miles Traveled (VMT)
 - Vehicle Registration/Auto Ownership
- Future fleet size, miles per gallon (MPG) efficiency
- Alternative funding options
- High – low ranges by future



Futures Influence (billions)

- ~ 2x more needs than available revenue by 2032
- Small but meaningful differences between estimates across futures
- Yields tied to changes in economic outlook, system use, demand and revenue sources
- Gap impact from lost purchasing power



Innovative Revenue \$74B



Globally Connected Revenue \$78B



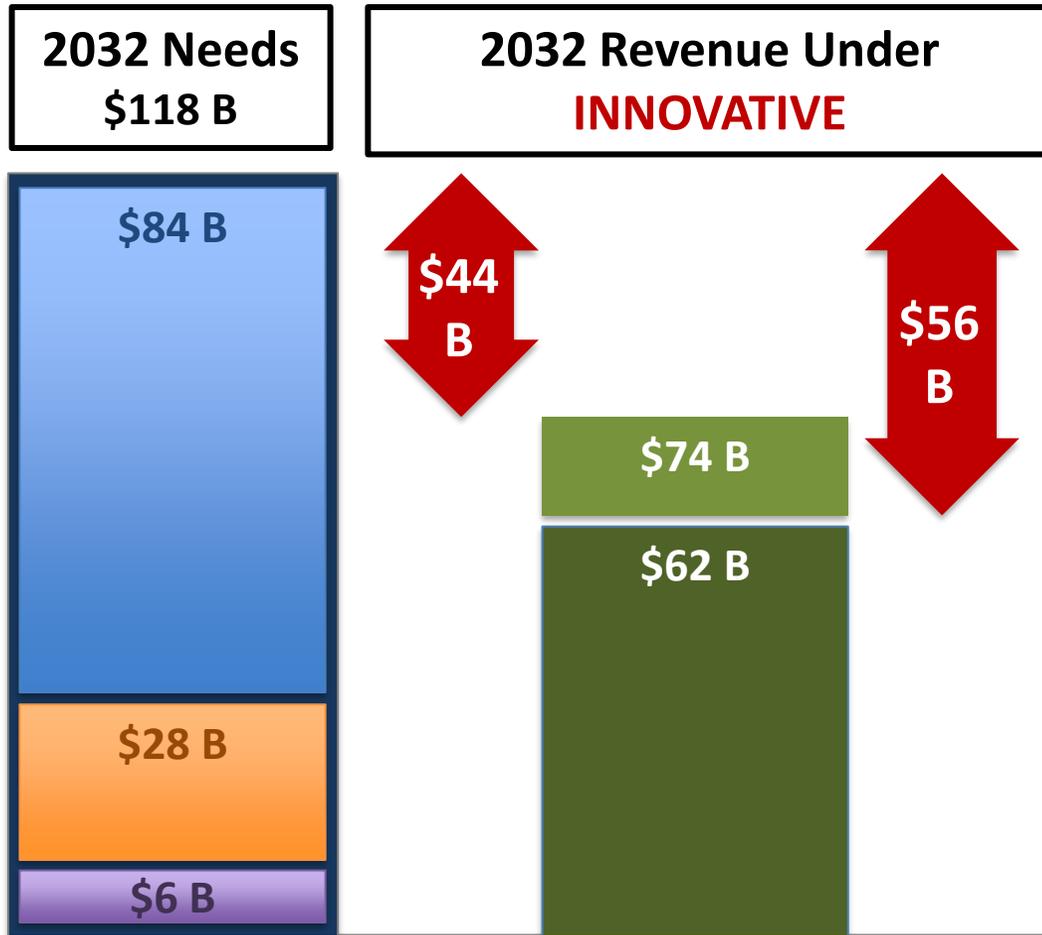
Renewed Revenue \$76B



Unstable Revenue \$71B

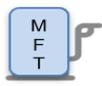


2032 Needs vs Revenue (billions)



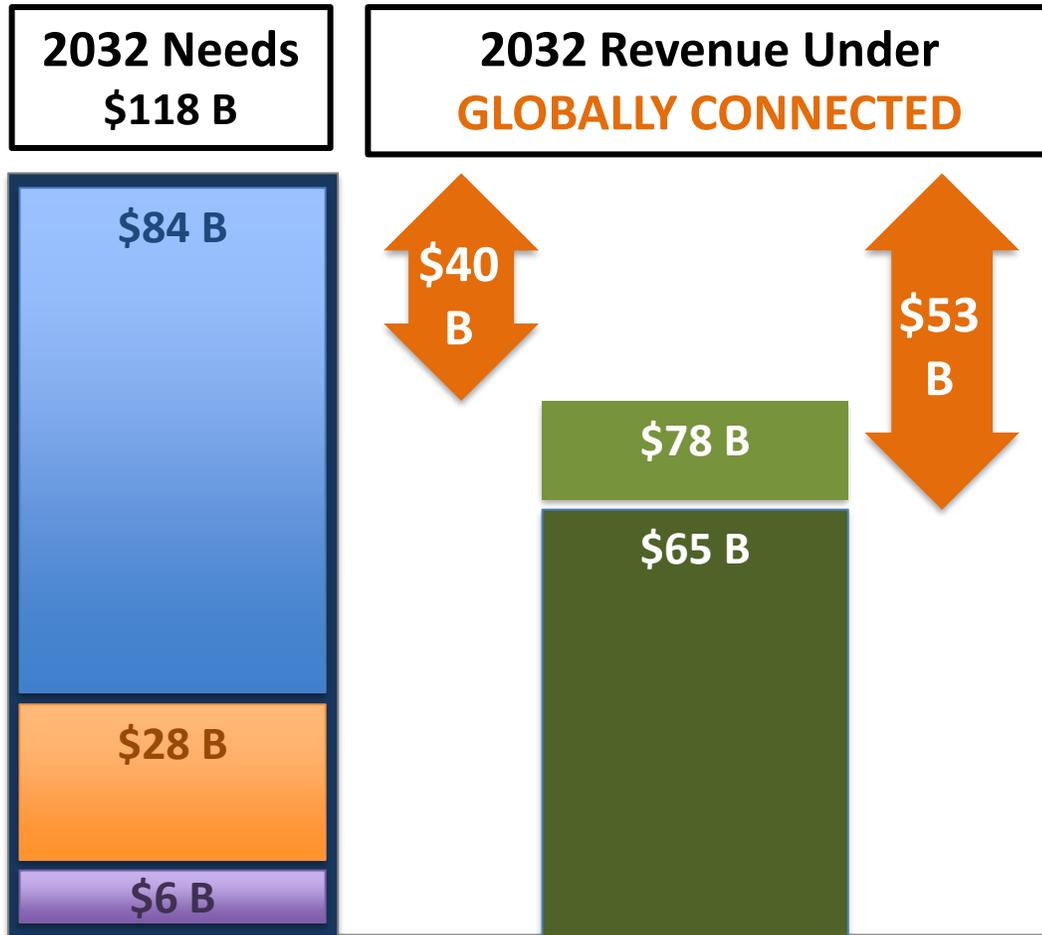
INNOVATIVE

Indicators Compared to Business as Usual

Forecast	Economic/Demand				Revenue		
	GDP	POP	VMT	Veh Own			
	↗	↗	→	→	→	→	→

- **EV sales increase** to a 25% share of light-duty vehicles
- **Increase in non-highway mode share** in urban areas (mobility apps and travel options)
- **Slight VMT decrease** as economic growth is offset by shift to multimodal and virtual/on-demand economy
- **Vehicle ownership constant** as the strong economy balances with more multimodal options
- **Efficient network** results from less peak period travel, more connected infrastructure and vehicles

2032 Needs vs Revenue (billions)



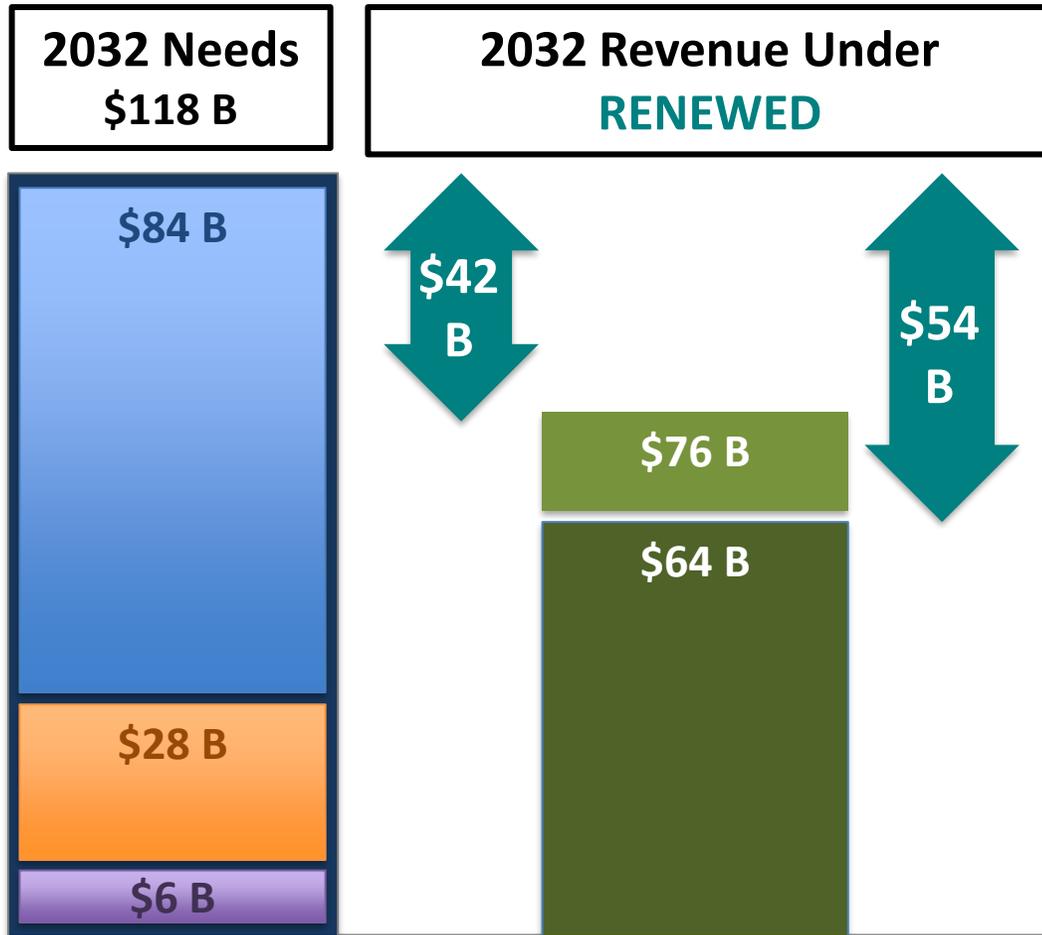
GLOBALLY CONNECTED

Indicators Compared to Business as Usual

Forecast	Economic/Demand				Revenue		
	GDP	POP	VMT	Veh Own			
	↗	↗	↗	→	↗	↗	→

- **E-commerce drives more freight movement** across multiple modes and trip types
- **Increase in competition and demand for curbspace**
- **Larger commercial fleet and more diverse mix;** more diesel fuel consumption offsets new clean technologies
- **Strong economic conditions** drive commercial vehicle ownership and VMT

2032 Needs vs Revenue (billions)



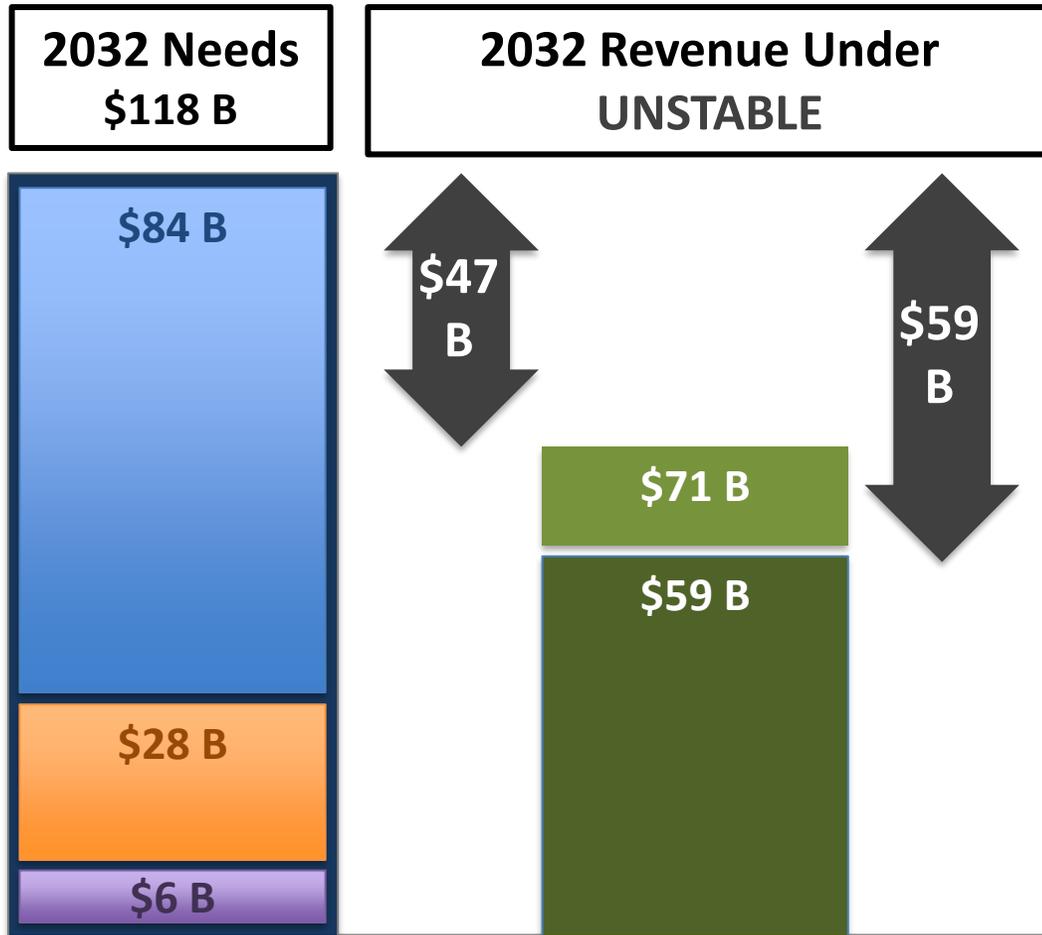
RENEWED

Indicators Compared to Business as Usual

Forecast	Economic/Demand				Revenue		
	GDP	POP	VMT	Veh Own			
	↗	↗	↗	→	↗	↗	↗

- **Increase in statewide VMT and freight travel** from small town economic activity & population growth
- **Vehicle ownership stays steady** as urban areas grow slower and focus on redevelopment while smaller communities pick up services, workers and retirees
- **More recreational travel** and development around destinations (tourism bump)

2032 Needs vs Revenue (billions)



UNSTABLE

Indicators Compared to Business as Usual

Forecast	Economic/Demand				Revenue		
	GDP	POP	VMT	Veh Own	MFT	Hwy Use Tax	DMV Fees
	↘	→	→	→	↘	→	→

- **Prolonged economic instability**, population growth slowdown and increased travel costs impact vehicle sales and statewide VMT
- **Higher share of transportation resources** devoted to asset management, operational efficiency
- **Rise in share of non-highway travel** due to an increasing reliance on transit and/or shared mobility in urban and rural areas

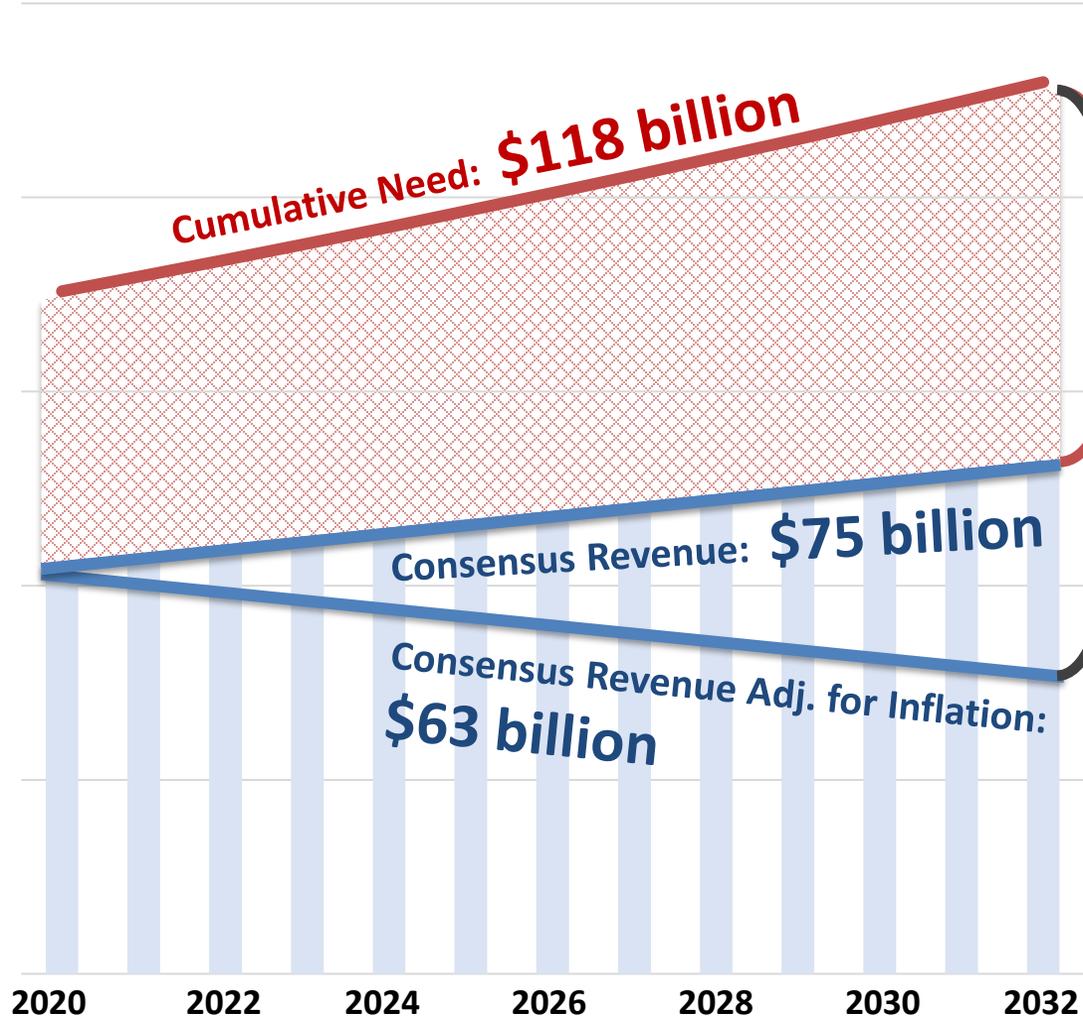
2032 Consensus Revenue Forecast



TAKEAWAYS

- Consensus revenue forecast reflects mix of all futures to represent diversity of potential conditions, assumptions
- Additional sensitivity analysis can reveal further risks or revenue source dependencies associated with one or more “leading” futures

2032 Needs vs. Revenue Gap (billions)



Needs – Revenue Gap: **\$43 billion**

Inflation Adj. Gap: **>\$55 billion**

- Need average annual revenue increase of \$3.3 billion (58% increase)
- Needs grow from ~\$80B backlog
- Needs vs. revenue gap is widening at a rate of nearly \$90M per year

Cumulative Need: Based on mix of futures built on top of existing plans and programs

Cumulative Revenue: Consensus blend with constant Federal sources and state revenue indexed to demand and economic factors

Summary

Implications for NC FIRST

Multimodal Transportation Needs

- Continued economic growth **drives growing & diversifying needs**
- The projected **magnitude of these needs is unlikely to change** substantially over the next decade (they are **more likely to increase, rather than decrease**)
- Even if the economy grows slower than anticipated, the **scope of the system to maintain and operate and the backlog of needs will always exceed revenue**

Transportation Revenue

- Existing sources are **generating less revenue** relative to the growth in needs
- Alternative futures **create more risks than opportunities** for existing revenue sources
- Alternative futures create opportunities for **new sustainable revenue sources**
- **Costs increases will outpace revenue growth**, further widening the needs versus revenue gap

QUESTIONS